DEPARTMENT OF CHEMISTRY

Where Chemistry Meets Innovation

Admissions Open Chemistry 2025 | JIIT - Noida

About Us

The Department of Chemistry at Jaypee Institute of Information Technology (JIIT), Noida, offers a two year postgraduate program in Chemistry. The department is strengthened by well-equipped laboratories for in-depth understanding of the subject. Furthermore, our program offers elective courses in specialized fields that allow students to explore emerging areas such as green chemistry, bioinorganic chemistry, bioorganic chemistry, spectroscopy, polymer chemistry, computational chemistry, medicinal chemistry, nanotechnology, etc., enhancing their adaptability to pursue careers in diverse fields. The hands-on research project develops critical thinking and sharpens the problem-based learning skills. The department has a vision to become a centre of excellence in chemistry to produce innovative minds with technical mindset.

INTRODUCTION

VISION

To become a centre of excellence in chemical sciences promoting transformative learning and interdisciplinary research.

MISSION

1: To create a collaborative and inclusive environment for advanced learning in chemical sciences.

2: To empower professionals to lead research and innovation for sustainable solutions

3: To create industry-focused and ethically sound technological solutions to real-world challenges

PROGRAMS

01

PG Program (M.Sc. Chemistry)

- Core + Electives + Research Project (6 months)
- Specialization - Physical, organic, inorganic analytical and industrial chemistry
- Electives: Green Chemistry, Nanotechnology, Polymer Chemistry, Medicinal Chemistry,
- Certificate Courses-Computational Chemistry, Cosmetic and Forensic chemistry
- Career Prospects: Academia, Pharma, chemical and biotech industries

02

- **Ph.D. Chemistry**
- Research opportunities in emerging areas of science and technology
- Interdisciplinary research option with well equipped department such as Biotechnology, ECE, CSE
- Access to advanced instruments & global research exposure

CURRICULUM - M.SC. CHEMISTRY (FIRST SEMESTER)

S.No.	Course Code	Course Title	Contact Hours				Credit
			L	T	P	Total	
1	25M11CH111	Group Theory and Photoinorganic Chemistry	3	1	-	4	4
2	25M11CH112	Stereochemistry and Reactive intermediates	3	1	-	4	4
3	25M11CH113	Chemical Dynamics and Electrochemistry	3	1	-	4	4
4	25M11CH114	Quantum Chemistry	3	1	-	4	4
5	25M15CH111	Inorganic Chemistry Lab-I	-	-	4	4	2
6	25M15CH112	Physical Chemistry Lab-I	-	-	4	4	2
7	19M21HS111	Presentation and Communication Skills	2	-	-	2	Audit
		Total	**14**	**4**	**8**	**26**	**20**

CURRICULUM - M.SC CHEMISTRY (SECOND SEMESTER)

S.No	Course Code	Course Title	Contact Hours				Credit
			L	T	P	Total	
1	25M11CH115	Organometallics and Bioinorganic Chemistry	3	1	-	4	4
2	25M11CH116	Organic Reagents and Pericyclic Reactions	3	1	-	4	4
3	25M11CH117	Molecular Spectroscopy	3	1	-	4	4
4	25M11CH118	Supramolecular Chemistry	3	1	-	4	4
5	xxxxxxxx	DE-I	3	-	-	3	3
6	25M15CH113	Inorganic Chemistry Lab-II	-	-	4	4	2
7	25M15CH114	Organic Chemistry Lab-I	-	-	4	4	2
		Total	**15**	**4**	**8**	**27**	**23**

CURRICULUM - M.SC CHEMISTRY (THIRD SEMESTER)

S.No.	Course Code	Course Title	Contact Hours				Credit
			L	T	P	Total	
1	25M11CH211	Nanomaterials and Their Applications	3	1	-	4	4
2	25M11CH212	Industrial Chemistry	3	1	-	4	4
3	25M11CH213	Organic Spectroscopic Techniques	3	-	-	3	3
4	xxxxxxxx	DE-II	3		-	3	3
5	xxxxxxxx	DE-III	3		-	3	3
6	xxxxxxxx	DE-IV	3		-	3	3
7	25M15CH211	Organic Chemistry Lab-II	-	-	4	4	2
8	25M15CH212	Physical Chemistry Lab-II	-	-	4	4	2
		Total	**18**	**2**	**8**	**28**	**24**

CURRICULUM - M.SC CHEMISTRY (FOURTH SEMESTER)

S.No.	Course Code	Course Title	Contact Hours				Credit
			L	T	P	Total	
1	xxxxxxxx	DE-V	3	-	-	3	3
2	25M17CH211	Project Work/Dissertation	-	-	20	20	10
		Total	**3**	**-**	**20**	**23**	**13**

LIST OF PROPOSED ELECTIVES

DE I	
xxxxxxxx	Frontiers in Inorganic Chemistry
xxxxxxxx	Environmental Chemistry
xxxxxxxx	Nuclear Chemistry
xxxxxxxx	Green Chemistry

DE II	
xxxxxxxx	Food Chemistry
xxxxxxxx	Chemistry of Natural products
xxxxxxxx	Computational Chemistry
xxxxxxxx	Inorganic Polymers

DE III	
xxxxxxxx	Chemoinformatics
xxxxxxxx	Bioorganic Chemistry
xxxxxxxx	Physical Organic Chemistry- Advanced
xxxxxxxx	Pharmaceutical Technologies
xxxxxxxx	Advanced Quantum Chemistry

DE IV	
xxxxxxxx	Biopolymers
xxxxxxxx	Surface Chemistry and Catalysis
xxxxxxxx	Computer Aided Drug Design
xxxxxxxx	X-ray Crystallography
xxxxxxxx	Biosensors

DE V	
xxxxxxxx	Chemistry of Surfactant and Pesticides
xxxxxxxx	IPR
xxxxxxxx	Medicinal Chemistry
xxxxxxxx	Non-equilibrium Thermodynamics

PH.D. PROGRAM

The Department of Chemistry at Jaypee Institute of Information Technology (JIIT), Noida, offers a comprehensive and research-intensive environment for students pursuing doctoral studies in chemistry. The department strongly promotes interdisciplinary research by collaborating with other departments including Biotechnology, Electronics and Communication Engineering, and Computer Science. This integrated approach helps scholars explore emerging research areas and apply chemistry in innovative ways. Ph.D. scholars undertake focused and original research under the mentorship of experienced faculty members. The research work spans a minimum duration of three years and is expected to make a meaningful contribution to the field of study. The scholars are required to engage in Advanced Course work and deliver seminars on their research progress regularly to publish their work. They are also required to take-up some advanced level course work. The program nurtures analytical thinking, creativity, and independence, providing scholars with a strong foundation for careers in academia, industry, or research and development. Upon completion, scholars submit a comprehensive thesis that reflects the outcomes of their research and the depth of their contribution to the scientific community.

SCHOLARSHIPS

Shaping the future for tomorrow

MSc Fee Waiver
Up to 50%

Ph.D. Scholarship
- ₹45,000/month

We believe in empowering the next generation of chemists.
Fueling their curiosity and passion for discovery.
By providing tools, knowledge, and mentorship,
We inspire innovation that shapes the future of science.
Together, we build a brighter world through chemistry.

Career Opportunities

M.Sc. Chemistry Graduates

- Analytical Chemist
- Organic / Material / Environmental Chemist
- Product Development Officer
- Quality Control & Assurance Officer

Ph.D. Chemistry Graduates

- Researcher or Professor in Universities
- R&D in Pharma, Chemical & Biotech Industries
- Quality Control & Product Formulation
- Interdisciplinary Careers
- Science Communication
- Data Science
- Patent Law
- Environmental Consulting

Faculty Profile

Prof. Pammi Gauba – Biotechnology & nanobiotech; biosensors, nanomedicine, soil/water remediation, sustainable tech.

Prof. Sudha Srivastava – Nanomaterials for biomedicine; biosensors, diagnostics, nanoparticle vaccines.

Dr. Gunjan Purohit – Nanomaterials in catalysis, organic synthesis, SPF blockers, jet fuels, lubricants.

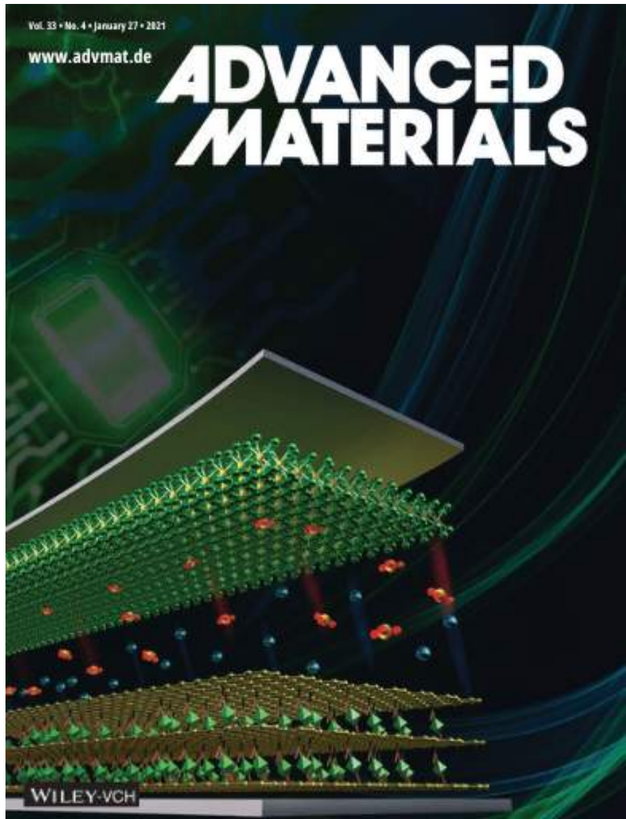
Dr. Haneesh Saini – MOFs/MOPs, membranes for water purification, oil–water separation, sustainability.

Dr. Neakanshika Chadha – Porous graphene, carbon nanomaterials, e-waste management, foams, energy storage.

Dr. Nishant Yadav– Materials chemistry for electrochemical storage, catalysis, synchrotron studies, next-gen batteries.

THRUST AREAS

- Catalysis
- Synthetic Chemistry
- Supramolecular & Materials Chemistry
- Interdisciplinary & Innovative Technologies



Research Excellence

Our Chemistry Department offers state-of-the-art laboratories equipped with modern instruments that support advanced research. Our faculty members are dedicated to fostering a dynamic learning environment where students engage in hands-on experiments and cutting-edge projects.

We emphasize innovation, critical thinking, and problem-solving skills, preparing our students to tackle real-world challenges.

Through partnerships with industry and research institutions, we provide opportunities for internships and collaborative research that broaden academic and professional horizons.

Key Facilities

- LC-MS/MS & GC-MS/MS – High precision molecular analysis
- HPLC – Advanced separation & purification
- **Atomic Absorption Spectrometer (AAS)** – Metal detection & analysis
- UV-Vis Spectrophotometer – Optical property studies
- Zeta Potential & Particle Size Analyzer – Nanomaterial characterization
- Pressure Reactors & Pilot Scale Units – Applied & industrial chemistry

CURRENT RESEARCH ACTIVITIES

01

COLLABORATIONS

- All India Institutes of Medical Sciences (AIIMS), New Delhi
- Central Pollution Control Board (CPCB), New Delhi
- Jamia Hamdard, New Delhi
- Jamia Millia Islamia, New Delhi
- PGIMER, Chandigarh

02

SPONSORD PROJECTS

- 5 ongoing Projects
- (INR~2.5 Crores)
- 11 Completed Projects (INR~2.6 Crores)
- 3 Completed Industry Projects

03

PATENTS, AWARDS AND RECOGNITIONS

- Patents Granted: 3
- Patent applications Published: 4
- Technology Transfer: 1

04

PUBLICATIONS

- Publications: 137
- Faculty Publications ≥ 50 citations: 6
- Scopus Indexed Publications:120

RESEARCH PUBLICATIONS

S No.	Name of Journal	Impact Factor (Thomson Reuter)
1	Environmental Chemistry Letters	15.7
2	Biosensors and Bioelectronics	12.8
3	Journal of Advanced Research	10.5
4	Sensors and Actuators: B Chemical	8
5	International Journal of Biological macromolecules	7.7
6	ACS sustainable Chemistry and Engineering	7.1
7	ChemCatChem	5.5

JOIN THE DEPARTMENT OF CHEMISTRY AT JIIT – SHAPE THE FUTURE OF CHEMISTS WITH US!

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PHOTO GALLERY